

REMARKS

Reconsideration and allowance of the present application are respectfully requested. Claims 1-36, 42-45 and 52-63 are currently pending in this application.

Regarding the Current Amendments

A number of changes have been made in this Response to clarify the invention. For instance, dependent claims 2-16 have been redrafted to depend from claim 52 instead of claim 1, and dependent claims 18-31 have been redrafted to depend from claim 53 instead of claim 17. Certain other changes are identified below.

Regarding the 35 U.S.C. § 102 Rejection

Claims 1, 3-9, 12, 14-17, 19-25, 28, 30-32, 34-36, 42-45, 52 and 53 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,157,415 to Glen (referred to below as "Glen"). Applicant respectfully traverses this rejection for the following reasons.

As amended, independent claim 1 recites a video input system for pre-processing video signals. The video input system comprises a video input module for receiving, processing and forwarding one or more live video signals, the video input module producing a forwarded video signal for each received live video signal. The video input system also comprises a first multiplexer, coupled to a memory and to the video input module, for receiving a first stored video signal from the memory, or for receiving one of the forwarded video signals produced in the video input module, and for providing an output signal VS₁ defined as the first stored video signal or defined as the one of the forwarded video signals. The video input system also comprises a first video pipeline for pre-processing VS₁, the first video pipeline producing a first pre-processed video signal. The video input system also comprises a second multiplexer, coupled to the memory and to the video input module, for receiving a second stored video signal from the memory,

1 or for receiving one of the forwarded video signals produced in the video input module,
2 and for providing an output signal VS_2 defined as the second stored video signal or
3 defined as the one of the forwarded video signals. The video input system also comprises
4 a second video pipeline for pre-processing VS_2 , the second video pipeline producing a
5 second pre-processed video signal.

6 Glen does not teach or suggest the above-described recitations of claim 1. As
7 shown in Fig. 1 of Glen, Glen discloses an image blending module 10 including an input
8 selection module 12, a color base conversion module 14, and an output module 16. The
9 input selection module 12 may include a single port for receiving a video input. In this
10 case, the selection process can be performed manually by a user who selects one of the
11 plurality of video inputs and manually couples the selected video input to the video input
12 port. Alternatively, the input selection module 12 may include a plurality of ports for
13 receiving the video inputs. In this case, the input selection module 12 can include a
14 selection switch for selecting one or more of the video inputs. The color conversion
15 module 14 receives the selected image inputs and produces converted images layers 22
16 therefrom. In general, the color base conversion module 14 converts the color base of
17 each of the selected image inputs when the color base of the image inputs does not match
18 the color base of the output. Converted and non-converted image inputs are stored within
19 a frame buffer 26 by the color base conversion module 14. The output module 16
20 retrieves data from the frame buffer 26 and performs a blending operation thereon. Note
21 generally column 3, line 38 to column 4, line 54 of Glen.

22 The figure specifically referenced in the Office Action – namely Fig. 2 of Glen –
23 shows a specific dynamic image layer blending module 30. This module 30 includes a
24 plurality of input multiplexers 32-38, a plurality of color base conversion modules 42-46,
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1 a plurality of blending modules (48, 50), a configuration module 40, a plurality of output
2 multiplexers 54-58 and a memory 52. Note generally column 5, lines 7-49 of Glen.

3 First, Glen does not teach or suggest a video input module for receiving,
4 processing and forwarding one or more live video signals, the video input module
5 producing a forwarded video signal for each received live video signal. The Office
6 Action states that “Glen discloses a video mixing system showing an input terminal for
7 receiving different kinds of video signals (Figure 2), either from live video sources or
8 video storages or memories, which meets the video input module and the memory as
9 claimed” (page 3, lines 3-6 of the Office Action). However, there is no module in Glen
10 which feeds signals to its multiplexers 32-38 which serves the role of the claimed video
11 input module, that is, which processes and forwards one or more video signals. An input
12 terminal *per se* – which appears to be how the Office Action is interpreting the recited
13 video input module – does not process and produce signals as claimed.

14 Second, and more generally, it is apparent that Glen’s apparatus is designed to
15 convert signals that satisfy the format expectations of video *output* equipment. Indeed,
16 Glen states that the disclosed blending modules can be incorporated into the video output
17 equipment itself (column 3, lines 21-24 of Glen). Because Glen’s apparatus is clearly
18 affiliated with video output equipment, it should be interpreted as related only to output
19 functionality. In contrast, claim 1 recites a video *input* system for *pre-processing* video
20 signals, not an output system. (This distinction is further clarified in dependent claims 58
21 and 63, which recite both a video input system and a video output system; Glen’s
22 apparatus cannot be construed as *both* an *input* system and *output* system.)

23 A claim is anticipated only if each and every element as set forth in the claim is
24 found, either expressly or inherently described, in a single prior art reference. *Verdegaal*
25 *Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For at least

1 the above exemplary reasons, Glen does not anticipate each and every element in claim 1,
2 and therefore it fails to anticipate this claim under § 102. Moreover, as explained above,
3 Glen actually recites a system which is markedly unlike the system recited in claim 1.

4 The other independent claims in this case (i.e., claims 17, 32, 42, 52 and 53) have
5 been amended in a manner similar to claim 1. Therefore, these claims are allowable over
6 Glen for reasons related to those given above. In addition, these claims recite additional
7 elements not found in Glen. For example, claim 53 recites that VS₂ can also be the same
8 video signal being pre-processed in the first video pipeline. Glen does not disclose two
9 pipelines for processing the same video signals (in combination with the other elements
10 of claim 53).

11 The remaining claims rejected under 35 U.S.C. § 102(e) (i.e., claims 2-9, 12, 14-
12 16, 19-25, 28, 30, 32, 34-36 and 43-45) depend variously from the above-identified
13 independent claims, and are therefore allowable for at least this reason. In addition, these
14 claims recite additional features that are not taught or suggested by Glen. To cite one
15 example, dependent claim 6 recites that the first pre-processed video signal is output to a
16 storage medium and the second pre-processed video signal is forwarded to a video
17 graphics processor. Dependent claim 7 recites that the first pre-processed video signal is
18 output to a storage medium and the second pre-processed video signal is forwarded to a
19 video output system. And dependent claim 8 recites that the first pre-processed video
20 signal is forwarded to a video graphics processor and the second pre-processed video
21 signal is forwarded to a video output system. The Office Action states that “the output
22 signals in Glen are intended to be provided different medium [*sic*], such as storage
23 medium, video graphics processors, and display media” (page 3, lines 17-19 of the Office
24 Action). However, these claims specifically recite that the output of the first and second
25 video pipelines (e.g., the first and second pre-processed video signals) are output to

1 different respective specific output devices. Glen does not specifically disclose this
2 feature; in contrast, Glen's processing generates different components of a single output
3 (e.g., see column 3, lines 2-6), not signals feed to separate output devices.

4 The above discussion of the dependent claims is representative, rather than
5 exhaustive, of the deficiencies of the Glen reference vis-à-vis the claimed invention.

6 For at least the above-stated reasons, the Applicant submits that the 35 U.S.C.
7 § 102 rejection based on Glen is misplaced, and respectfully requests that it be withdraw.

8 *Regarding the 35 U.S.C. § 103 Rejection*

9 The remainder of the pending claims, i.e., claims 2, 10, 11, 13, 18, 26, 27, 29 and
10 33 were rejected under 35 U.S.C. § 103 as being unpatentable over the above-identified
11 Glen reference. Applicant respectfully traverses this rejection for the following reasons.

12 Claims 2, 10, 11, 13, 18, 26, 27, 29 and 33 now depend variously on the above-
13 identified independent claims 52 and 53, and are allowable for at least this reason.
14 Namely, Glen is deficient with respect to claims 52 and 53 for the reasons stated above.
15 Furthermore, the rejection of the claims under § 103 does not overcome Glen's
16 deficiencies because these deficiencies pertain to fundamental differences between the
17 systems and methods recited in the claimed invention and Glen's system (as described
18 above).

19 In addition, the rejected dependent claims recite additional subject matter which is
20 not disclosed in Glen. For instance, claim 2 recites that the video input module further
21 comprises an ancillary data extractor, the extractor removing ancillary data from at least
22 one of the live video signals converted in the video input module. The Office Action
23 states that such ancillary data extractors are well known in the art (page 5 of the Office
24 Action). Even if, assuming *arguendo*, data extractors are known in general, there is no
25 disclosure in Glen (or in general knowledge in that art) that it would have been obvious to

1 include such a feature in a video input module within the specific context of the system
2 defined by claim 2 (which now depends on claim 53).

3 Again, the above discussion of the dependent claims is representative, rather than
4 exhaustive, of the deficiencies of the Glen reference vis-à-vis the claimed invention.

5 For at least the above-identified reasons, the Applicant respectfully requests that
6 the rejections based on Glen under 35 U.S.C. § 103 be withdrawn.

7 *Regarding Newly Added Claims*

8 A number of additional dependent claims (i.e., claims 54-63) have been added
9 which also distinguish over the applied documents. That is, these claims depend
10 variously from claims 52 and 53 and are therefore allowable for at least this reason. In
11 addition, these claims recite additional subject matter which is not disclosed or suggested
12 by Glen. For instance, dependent claim 54 recites that the processing performed by the
13 video input module comprises converting “said one or more live video signals into a
14 defined format to provide the forwarded video signal for each received live video signal.”
15 The Office Action appears to interpret the claimed video input module as an input
16 terminal, but an input terminal *per se* cannot perform the converting function as claimed.
17 Claim 55 recites that the video input module comprises a receiver, a processor and a
18 buffer. Again, the Office Action appears to interpret the claimed video input module as
19 an input terminal, but an input terminal *per se* cannot include a receiver, a processor and
20 a buffer. Claim 56 recites that the first video pipeline and the second video pipeline
21 respectively generate video signals for output to two different output devices. Glen does
22 not disclose that different conversion modules or blending modules can generate video
23 signals for output to two different output devices in the context claimed. Claim 57 recites
24 that the first video pipeline and the second video pipeline process two video signals
25 having separate content in interleaved fashion. Glen does not disclose the use of the

1 conversion modules and blending modules for this purpose. And finally, claim 58 recites
2 that the video input system is coupled to a video output system, wherein the video output
3 system defines a video signal output format of a combination of the video input system
4 and the video output system. As mentioned in connection with claim 1, Glen does not
5 disclose a video input system at all; thus, by reciting both a video input system and a
6 video output system, claim 58 highlights this deficiency of Glen. Dependent claims 59-
7 63 recite similar subject matter to claims 54-58 above.

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